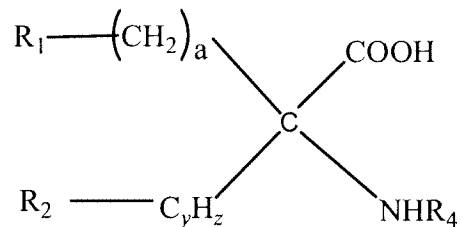


**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

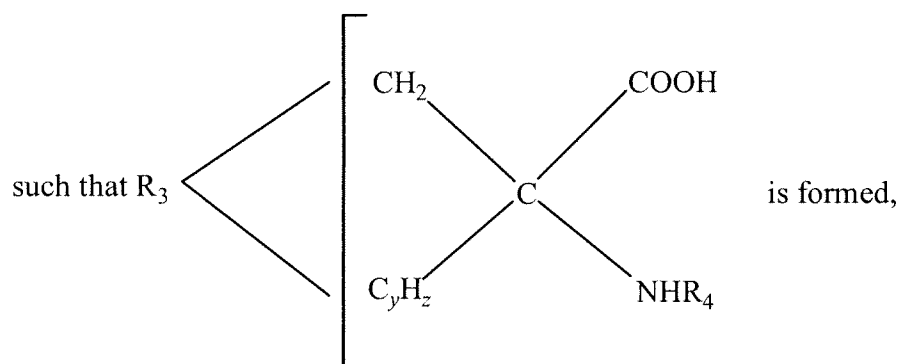
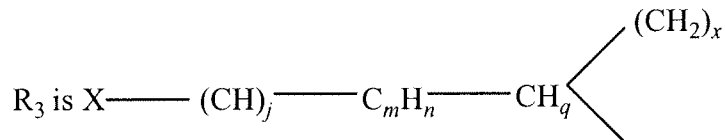
**Listing of Claims:**

1. (Original) An amino acid analog having the general structure



where  $\text{R}_1$  is X,  $\text{X} - \text{HC} = \text{CH} -$ , or  $\text{R}_3$

$\text{R}_2$  is H, or  $\text{R}_3$  if  $\text{R}_1$  is  $\text{R}_3$ .



$\text{R}_4$  is  $-(\text{C}_k\text{H}_{2k+1})$ ,  $-(\text{C}_k\text{H}_{2k-1})$  or  $-(\text{C}_k\text{H}_{2k-3})$

And where  $a$  is 1 to 5,

$x$  is 0 or 1,

$y$  is 1 or 2,

z is 1, 2, 3 or 4 and  $z > y$  if y is 2,  
q is 1 or 0 if n is 1 and j is 0,  
n is 1 or 2, but 0 if m is 0,  
m is 0 or 1  
j is 0, 1, 2 or 3  
k is 1-5 and  
X is  $^{18}\text{F}$ ,  $^{123}\text{I}$ ,  $^{124}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{75}\text{Br}$ ,  $^{76}\text{Br}$ ,  $^{77}\text{Br}$ ,  $^{82}\text{Br}$ , or At

2. (Original) The compound of claim 1, wherein  $R_1$  and  $R_2$  are  $R_3$ .

3. (Original) The compound of claim 1, wherein x is 0

y is 1  
z is 2  
q is 1  
m is 0 and j is 0.

4. (Original) The compound of Claim 3, wherein X is  $^{18}\text{F}$  or  $^{123}\text{I}$ .

5. (Original) The compound of Claim 3, wherein X is  $^{18}\text{F}$ .

6. (Original) The compound of Claim 1, wherein  $R_1$  and  $R_2$  are  $R_3$ ,

x is 0 or 1  
y is 2  
z is 4  
q is 1  
m and j are 0 and X is  $^{18}\text{F}$  or  $^{123}\text{I}$ .

7. (Original) The compound of claim 6, wherein x is 1 and X is  $^{18}\text{F}$ .

8. (Original) The compound of Claim 6, wherein x is 0 and X is  $^{123}\text{I}$ .
9. (Original) The compound of Claim 6, wherein x is 1 and X is  $^{123}\text{I}$ .
10. (Original) The compound of Claim 1, wherein R1 and R2 are R3,  
x is 0  
y is 1  
z is 2  
q is 0  
m is 1  
n is 1  
j is 0 and X is  $^{18}\text{F}$  or  $^{123}\text{I}$ .
11. (Original) The compound of claim 10, wherein X is  $^{18}\text{F}$ .
12. (Original) A compound according to claim 1 wherein R<sub>1</sub> and R<sub>2</sub> are R<sub>3</sub>,  
x is 1  
y is 1  
z is 1  
q is 0  
m and j are 0, and  
X is  $^{18}\text{F}$  or  $^{123}\text{I}$ .
13. (Original) A compound according to claim 12 wherein X is  $^{123}\text{I}$ .
14. (Original) A compound according to claim 1 wherein R1 and R2 are R3,  
x is 0  
y is 1  
z is 2

q is 1  
m is 1  
n is 1  
j is 1, and  
X is  $^{18}\text{F}$ , or  $^{123}\text{I}$ .

15. (Original) The compound of claim 14 wherein X is  $^{123}\text{I}$ .

16. (Original) A compound according to claim 1 wherein  $\text{R}_1$  and  $\text{R}_2$  are  $\text{R}_3$ ,

x is 0  
y is 1  
z is 2  
q is 0  
m is 0  
j is 1, and  
X is  $^{18}\text{F}$ , or  $^{123}\text{I}$ .

17. (Original) The compound of claim 16 wherein X is  $^{123}\text{I}$ .

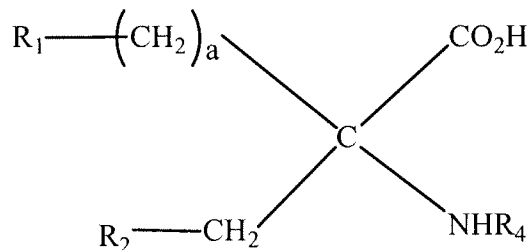
18. (Original) A compound according to claim 1 wherein  $\text{R}_1$  and  $\text{R}_2$  are  $\text{R}_3$ ,

x is 0 or 1  
y is 2  
z is 4  
q is 1  
m is 1  
n is 1  
j is 1, and  
X is  $^{18}\text{F}$ , or  $^{123}\text{I}$ .

19. (Original) The compound of claim 18 wherein X is  $^{18}\text{F}$ .
20. (Original) The compound of claim 18 wherein X is  $^{123}\text{I}$ .
21. (Original) A compound according to claim 1, wherein  $\text{R}_1$  and  $\text{R}_2$  are  $\text{R}_3$ ,  
x is 0 or 1  
y is 2  
z is 4  
q is 0  
m is 0  
j is 1, and  
X is  $^{18}\text{F}$ , or  $^{123}\text{I}$ .
22. (Original) The compound of claim 21 wherein X is  $^{18}\text{F}$ .
23. (Original) The compound of claim 21 wherein X is  $^{123}\text{I}$ .
24. (Original) A compound of claim 1 wherein  $\text{R}_1$  and  $\text{R}_2$  are not  $\text{R}_3$ .
25. (Original) A compound according to claim 24 wherein X is  $^{18}\text{F}$ .
26. (Original) A compound according to claim 1 wherein  $\text{R}_1$  is  $\text{X-CH=CH-}$ ,  
 $\text{R}_2$  is H, y is 1 and z is 2.
27. (Original) The compound of claim 26 wherein X is  $^{123}\text{I}$ .
- 28-44. Canceled

45. (Original) The compound of claim 1, wherein  $R_1$  is  $^{18}\text{F}$ ,  $R_2$  is H, y is 1, z is 2, and  $R_4$  is  $-\text{CH}_3$ .

46. (Previously presented) An amino acid analog having the general structure



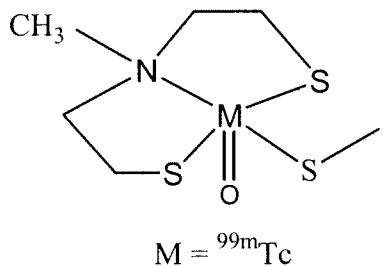
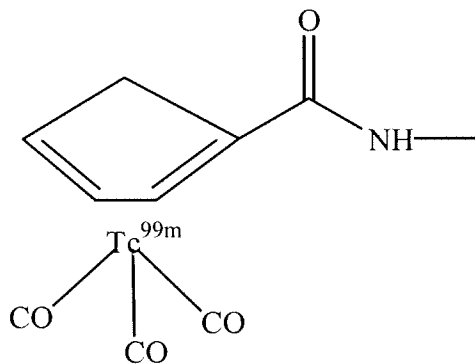
where  $R_1$  is Z, a is 1 to 5,

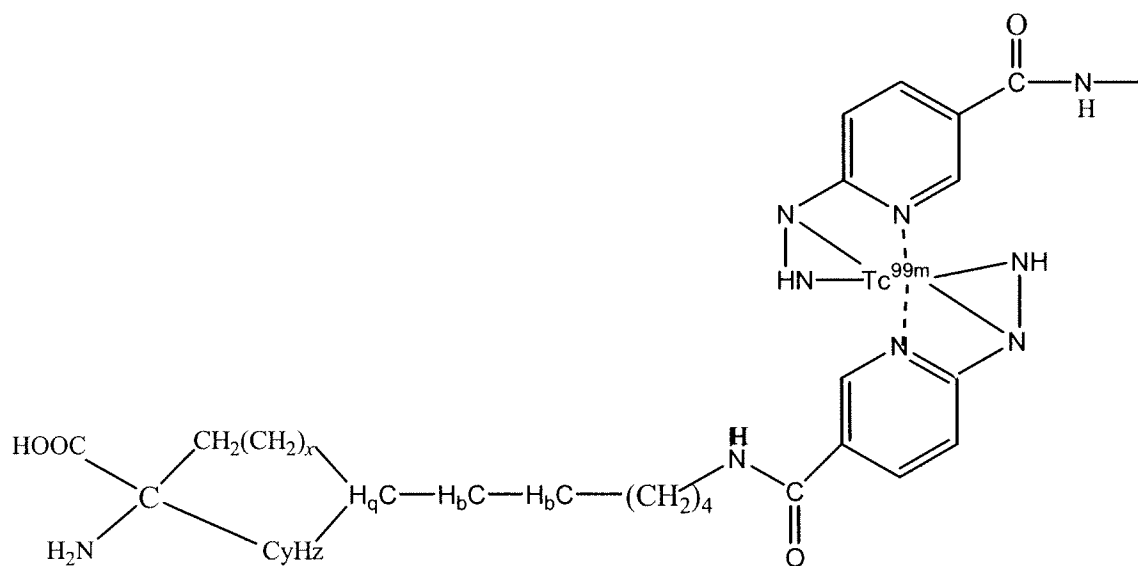
$R_4$  is  $-(\text{C}_k\text{H}_{2k+1})$ ,  $-(\text{C}_k\text{H}_{2k-1})$ , or  $-(\text{C}_k\text{H}_{2k-3})$ , and

$R_2$  is  $-(\text{C}_k\text{H}_{2k+1})$ ,  $-(\text{C}_k\text{H}_{2k-1})$ , or  $-(\text{C}_k\text{H}_{2k-3})$

k is 1-5.

Z is





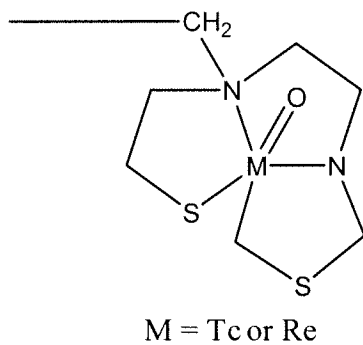
where b is 0, 1 or 2

x is 0 or 1

y is 1 or 2

z is 1, 2, 3, or 4 and z>y if y is 2,

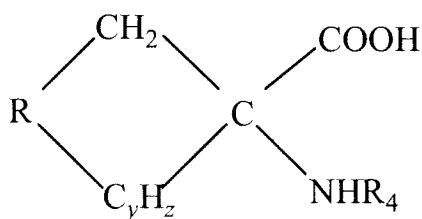
q is 0 or 1



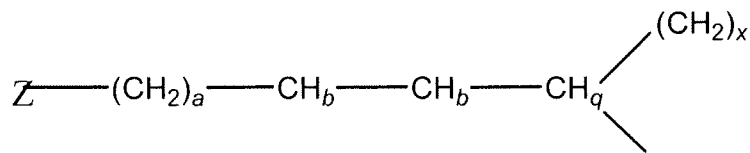
47. (Original) A method of in situ tumor imaging by positron emission tomography comprising:

administering to a subject suspected of having a tumor an image-generating amount of a compound according to claim 1, and measuring the distribution of the compound in the subject by positron emission tomography.

48. (Previously presented) An amino acid analog having the general structure



where R is



where a is 1, 2 or 3

b is 0, 1 or 2

x is 0 or 1

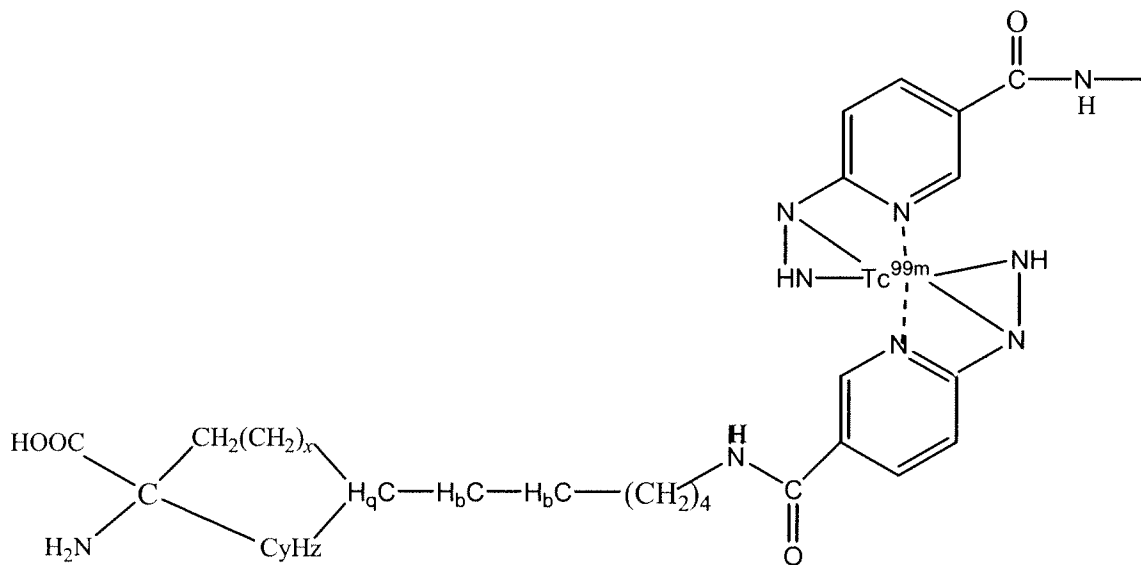
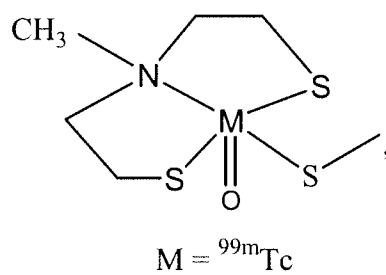
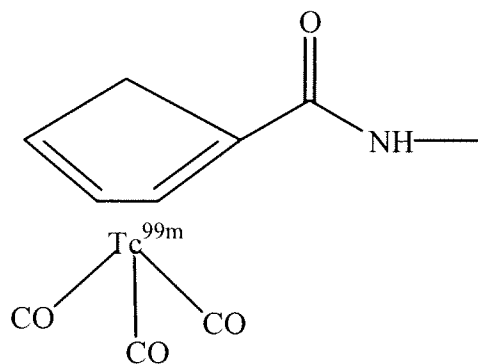
y is 1 or 2

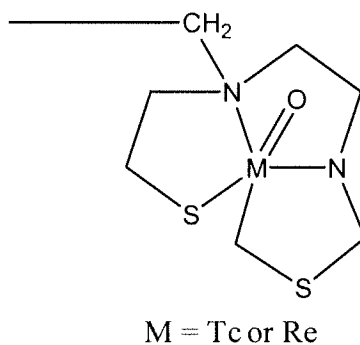
z is 1, 2, 3 or 4 and  $z > y$  if y is 2,

q is 1 or 0

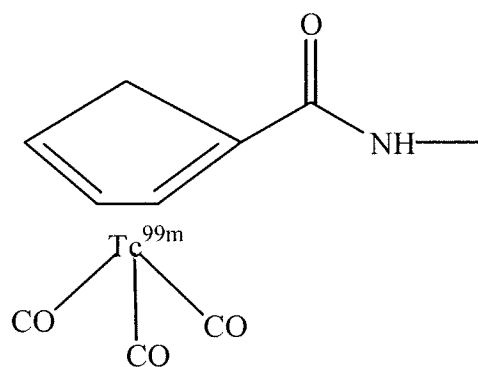
$\text{R}_4$  is  $-(\text{C}_k\text{H}_{2k+1})$ ,  $-(\text{C}_k\text{H}_{2k-1})$ , or  $-(\text{C}_k\text{H}_{2k-3})$ , where k is 1-5, and Z is



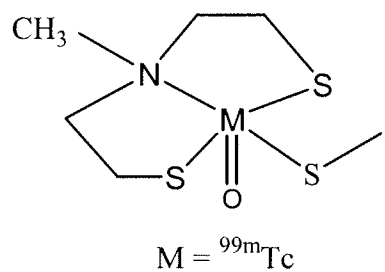




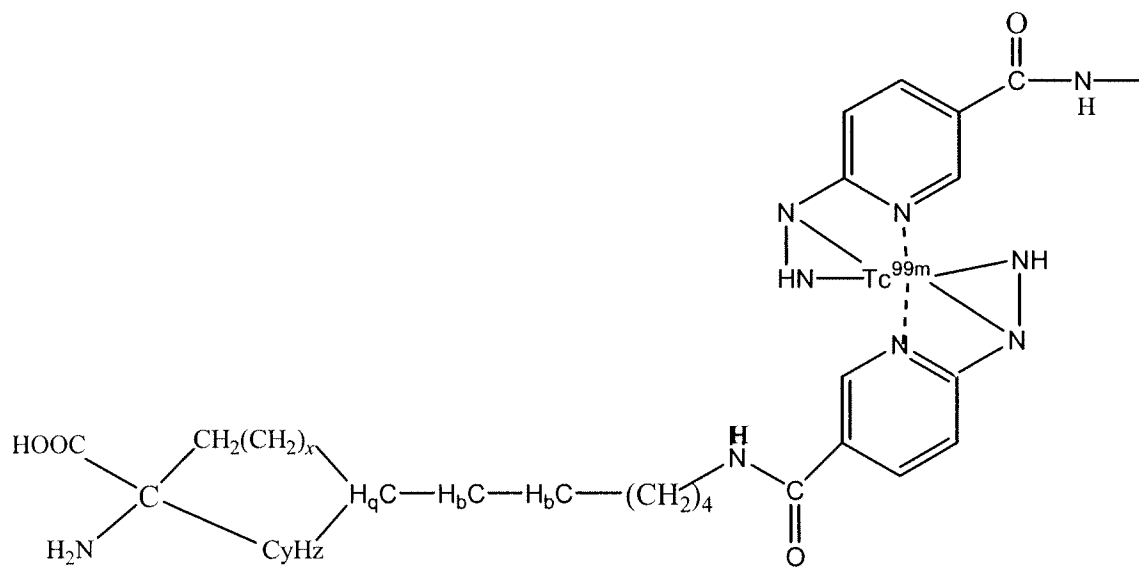
49. (Previously presented) The compound of claim 48 wherein Z is



50. (Previously presented) The compound of claim 48 wherein Z is



51. (Previously presented) The compound of claim 48 wherein Z is



where a is 1, 2 or 3

b is 0, 1 or 2

x is 0 or 1

y is 1 or 2

z is 1, 2, 3 or 4 and  $z > y$  if y is 2,

q is 1 or 0

52. (Previously presented) The compound of claim 48 wherein Z is

